Tech Info Library

Applesoft: Numeric comparison problems

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Security: Everyone

Applesoft: Numeric comparison problems

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When two numbers print as equal, though an IF statement indicates they're not, the least significant bits in the internal binary storage format of those numbers are different. Applesoft's PRINT statement truncates a number that is extremely close to being an integer. For example, 3^2 and 3*3 will both print as 9 but won't compare as equal. Printing 3^2 - 3*3 will result in 3.7252903E09, while the expression 3^2 = 3*3 is false.

Round Applesoft real numbers to a specific number of decimal places to avoid comparison problems. Use the formula:

```
X = INT(X*P+.5)/P
```

where P=10 for 1 decimal place, P=100 for 2 decimal places and P=1000 for 3 decimal places, etc.

Apple Tech Notes

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